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### A climate of ill health

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## A climate of ill health

### Abstract

Book review of: **CHANGING PLANET, CHANGING HEALTH: How the Climate Crisis Threatens Our Health and What We Can Do about It.** Paul R. Epstein and Dan Ferber. xii + 355 pp. University of California Press, 2011. \$29.95.

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# AMERICAN Scientist

BOOK REVIEW

## A Climate of Ill Health

Noel Castree

**CHANGING PLANET, CHANGING HEALTH: How the Climate Crisis Threatens Our Health and What We Can Do about It.** Paul R. Epstein and Dan Ferber. xii + 355 pp. University of California Press, 2011. \$29.95.

Will anthropogenic climate change alter the global geography of illness, disease and death? If even the most conservative scientific predictions of the Intergovernmental Panel on Climate Change (IPCC) are accurate, the answer is a resounding yes. Securing the health of the populace in some 200 nation-states—including many with exceedingly poor and patchy health-care provision—is likely to be one of the signature challenges attendant upon unchecked atmospheric warming. Yet, as Harvard University's Paul Epstein and science journalist Dan Ferber explain in *Changing Planet, Changing Health*, it has taken 20 years for researchers, and more recently policy makers, to recognize the connection between climate change and public health. Thus far, the focus in behind-doors discussions and public debates seems to have been on admittedly important things such as food security, alternative energy sources and emissions reductions, with the health issues to which all three are obviously related relegated to the background. As Epstein explains in the introduction,

This book is about how climate change harms health now, how it could devastate public health by midcentury, and how we must transform the way we power society and organize our economy to preserve a livable planet. But it is also about the incredible opportunities that will arise once we do.

*Changing Planet, Changing Health* offers diagnosis and cure—appropriately so, given that its principal author is a medical doctor now engaged full-time in research, teaching and advocacy. Epstein is Associate Director of the Center for Health and Global Environment at Harvard Medical School, the first organization of its kind to be created in a U.S. medical school (back in 1996). Alone and with others, he has been an indefatigable analyst of the health–climate-change nexus. In the book's foreword, Jeffrey Sachs characterizes Epstein as “a great scientific problem solver” and notes that “a breath-taking love of humanity and nature” is on display in the book. Epstein's considerable efforts as a researcher, knowledge synthesizer, pedagogue and network builder have all been geared to one aim: to ensure that public-health professionals and politicians understand the need for systems of illness detection, prevention and cure that can cope with the challenges of global climate change.

Epstein describes and explains the links between climate change and spreading health risks, employing a narrative form that is semiautobiographical rather than conventionally scientific. Readers are taken on a journey of discovery that retraces Epstein's winding career path as he moves from working overseas as a physician to serving as a leading expert in the study and management of epidemics.

After encountering a cholera outbreak in Beira, Mozambique, some 33 years ago (as he relates in chapter 1), Epstein went on to reeducate himself in the disciplines of epidemiology and public health (as we learn in chapter 2)—driven, in large part, by curiosity about why new infectious diseases were emerging and why known diseases thought to be under control were flaring up unexpectedly. In chapter 3, “Sobering Predictions,” Epstein recounts his experiences at the 1992 Earth Summit, which he attended with his Harvard colleague Eric Chivian, and describes their subsequent success in getting reviews of research about climate change and disease published in *The Lancet* and included in the IPCC's second assessment report. Epstein, Chivian and others at Harvard then created the Center for Health and Global Environment (discussed in chapter 4) in order to “provide a credible voice from the world of academic medicine concerning the health impacts of global environmental change.” “The launch of our center,” Epstein recalls, “was a pivotal change in direction in my life: I stopped treating patients and turned my efforts toward addressing the health consequences of climate change.”



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The next few chapters, which range beyond the earlier discussion of familiar ailments such as asthma, malaria and sleeping sickness, showcase the expertise of many people outside Harvard, both in the United States and beyond. Chapters 5 through 8 focus respectively on food crops and pests, oceanic biochemistry, stressed forest ecosystems and storm events. In each case, the direct or indirect adverse effects of climate change on human health are detailed. Specific examples are used to make much wider claims about future threats to people's physical well-being.

The final third of the book (116 pages out of 299) is organized into five shortish chapters. Here the argument becomes normative; the earlier focus on Epstein's professional activities, and on the research findings of various Western and non-Western scientists, gives way to criticism and prescription. Chapter 9, “The Ailing Earth,” takes issue with the pro-oil-industry agenda of George W. Bush and Dick Cheney. In chapter 10, Epstein reflects on his advisory work for the insurance firm Swiss Re. He thinks that, contrary to what the cynics and “hard green” critics believe, more than a few corporations really can “gain green by going green.” Chapter 11 focuses on what citizens and governments can do practically. Epstein envisages a future low-carbon economy based on smart technology and greatly changed lifestyles.

In the final two chapters, harking back to the regulated capitalism created after the economic ructions that, in part, caused World War II, Epstein proposes a global new deal founded on three things: namely, fresh rules about justice and governance, strong transnational institutions able to make these rules flesh, and the necessary funds to help the most disadvantaged nations mitigate the effects of climate change. The book closes with an epilogue written just after the Deepwater Horizon oil rig exploded in the Gulf of Mexico. Epstein suggests, hopefully, that

Looking back years from now, we may view April 20, 2010, . . . as the 9/11 for the environment—a crossroads in the history of our species, when we collectively got a grip on our relationship with the environment, and just in the nick of time.

Coauthor Dan Ferber is a shadow presence—Epstein tells his story in the first person singular. Ferber's journalistic skills have presumably been tapped to present Epstein's prescriptions in ways designed to appeal to educated general readers. As the book's subtitle (*How the Climate Crisis Threatens Our Health and What We Can Do about It*) indicates, it is aimed at nonspecialists. Devices to make it speak to that audience include the brief lay summaries of complex science that pepper the text, along with many real-life stories of victims and professionals who are caught up in the drama of illness and climate change.

The book is certainly readable, but is it any good? That depends on what sort of reader is doing the judging. *Changing Planet, Changing Health* makes few intellectual demands on readers already somewhat knowledgeable about biogeochemical systems and illness. Epstein's watchwords are complexity and uncertainty, but this does not always come through in the detail. Symptomatic are the Venn diagrams used to represent major arguments: Whatever their aesthetic appeal, they inevitably simplify and “black box” intricate relationships between humans and their environment. Similarly, even though the book highlights the value of interdisciplinary research and exchange, it does little more than offer a general critique of what's been called Cartesian thinking—that is, the post-Enlightenment Western habit of analyzing and altering parts of complex systems without properly grasping the whole. Finally, the chapters focusing on what is to be done are too brief to be programmatic in a concrete way and contain few really novel suggestions. In addition, these chapters rather pull their punches analytically: Exposure to disease, now and in the future, has everything to do with patterns of persistent social inequality that must be properly understood and tackled if public health is to be truly public. What are the root causes of these patterns? Radical social scientists have debated these causes for more than 60 years, yet Epstein and Ferber have chosen not to draw on their core theoretical or evidential insights.

Despite these criticisms, I suspect that for general readers *Changing Planet, Changing Health* is pitched just right. The narrative device of recounting Epstein's career as a scientific detective story holds the reader's interest, as does the trick of introducing the reader to people from Boston to Beira to British Columbia and beyond. In these ways the science and the global issues involved are humanized and personalized.

In stylistic terms the book will be comfortably familiar to those who routinely read other works of popular science and advocacy relating to climate change

(such as those by Al Gore, Laurie Garrett and Bill McKibben, who have all provided dust-jacket endorsements). Like those other works, this one uses some well-worn tropes for rhetorical effect. Scientists (preeminently Epstein) are presented as honest and tireless toilers who speak truth to power and ignorance. Metaphors that evoke clear and present dangers (such as "harvest of trouble") give way, in the book's final third, to a bracing call to arms designed to energize readers and dispel any gloom or anxiety. And a discourse of universal humanism reminds readers that "we're all in this together"—climate change and disease respect no political borders.

If *Changing Planet, Changing Health* is stylistically conventional, does it challenge general readers in other ways? The assumed audience is undoubtedly North American, and Epstein and Ferber work hard to suggest that climate change threatens health domestically as well as overseas. Even so, I fear that many readers might find the contents of the eight "diagnosis" chapters somewhat remote from their own lives, albeit interestingly so. What of the five "cure" chapters? It's less clear to whom they are addressed. Readers are enjoined to do their bit, but there's none of the detail found in such works as Joanna Yarrow's 2007 book, *1001 Ways You Can Save the Planet: Practical Ideas to Heal and Change the World*. The final two chapters on geopolitics and geoeconomics seem to be addressed to politicians and to actual (or potential) Democratic Party supporters. The implicit message appears to be "vote for change"—something Barack Obama's presidency has shown to be a less than effective mechanism for reforming the U.S. economy and society, notwithstanding progressive initiatives in California and elsewhere.

In sum, Paul Epstein and Dan Ferber have authored an engaging book on climate change and public health. It highlights the value of basic and applied epidemiology, interdisciplinary inquiry, international scientific collaboration and academic freedom. It is readable, well-illustrated and handsomely produced. However, in my view it misses the mark in some key areas. To awaken a general audience to the need for action, something more novel in style and content is needed. That said, Epstein and Ferber's disquisition on public health does usefully continue the drumbeat of concern sounded by many others in the worlds of climate-change science and environmental activism.

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